



U.S. General Services Administration

FedFleet



Federal Automotive Statistical Tool (FAST) Continuing the Focus on Data Quality

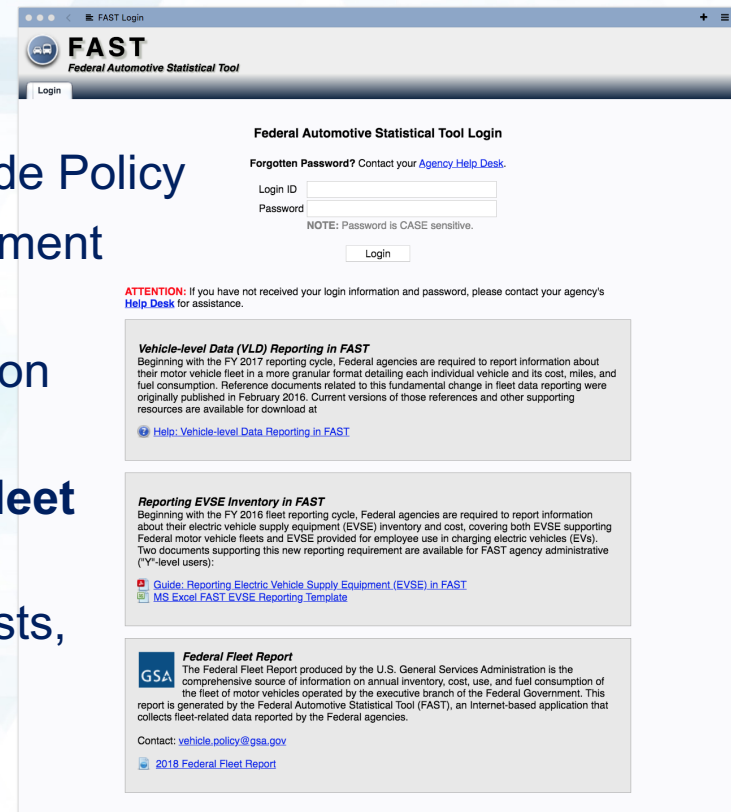
Ron Stewart

INL/CON-20-57196:001

- Overview of FAST and how vehicle fleet data is reviewed
- Preliminary review of FY 2019 fleet dataset
 - How does it compare to prior year?
 - Where do we see trouble spots?
- Recommendations
- Discussion

What is FAST?

- **Collaborative project funded and managed by**
 - GSA's Office of Government-wide Policy
 - DOE's Federal Energy Management Program
 - Energy Information Administration
- **Collects multiple federal vehicle fleet datasets**
 - Vehicles & operational data (costs, miles, fuel)
 - Fleet budget data
 - Fueling infrastructure data



FAST
Federal Automotive Statistical Tool

Login

Federal Automotive Statistical Tool Login

Forgotten Password? Contact your [Agency Help Desk](#).

Login ID

Password

NOTE: Password is CASE sensitive.

Login

ATTENTION: If you have not received your login information and password, please contact your agency's [Help Desk](#) for assistance.

Vehicle-level Data (VLD) Reporting in FAST

Beginning with the FY 2017 reporting cycle, Federal agencies are required to report information about their motor vehicle fleet in a more granular format detailing each individual vehicle and its cost, miles, and fuel consumption. Reference documents related to this fundamental change in fleet data reporting were originally published in February 2016. Current versions of those references and other supporting resources are available for download at

[Help: Vehicle-level Data Reporting in FAST](#)

Reporting EVSE Inventory in FAST

Beginning with the FY 2016 fleet reporting cycle, Federal agencies are required to report information about their electric vehicle supply equipment (EVSE) inventory and cost, covering both EVSE supporting Federal motor vehicle fleets and EVSE provided for employee use in charging electric vehicles (EVs). Two documents supporting this new reporting requirement are available for FAST agency administrative ("Y"-level users):

[Guide: Reporting Electric Vehicle Supply Equipment \(EVSE\) in FAST](#)
[MS Excel FAST EVSE Reporting Template](#)

Federal Fleet Report

The Federal Fleet Report produced by the U.S. General Services Administration is the comprehensive source of information on annual inventory, cost, use, and fuel consumption of the fleet of motor vehicles operated by the executive branch of the Federal Government. This report is generated by the Federal Automotive Statistical Tool (FAST), an Internet-based application that collects fleet-related data reported by the Federal agencies.

Contact: vehicle_policy@gsa.gov
[2018 Federal Fleet Report](#)

FAST: Why do we care about data quality?

- **Based on how the data is used:**
 - Regulatory & EO compliance determination
 - Required publications
 - Policy evaluation and development
 - Information resource for analysis
- **Based on increased interest in Federal vehicle fleet**
 - ... inside and outside the government
 - ... particularly since the transition to per-vehicle reporting



FAST: Why do we care about data quality?

- **Implications of questionable data quality**
 - Inaccurate compliance determination
 - Decreased confidence in compliance determination
 - Decreased confidence in dataset for other uses
 - Policy development and evaluation
 - Information resource for analysis
- **Presumably this is the data agencies are using to manage their fleets**
- **Knowing where the potential quality concerns are is a key part of improving the quality**



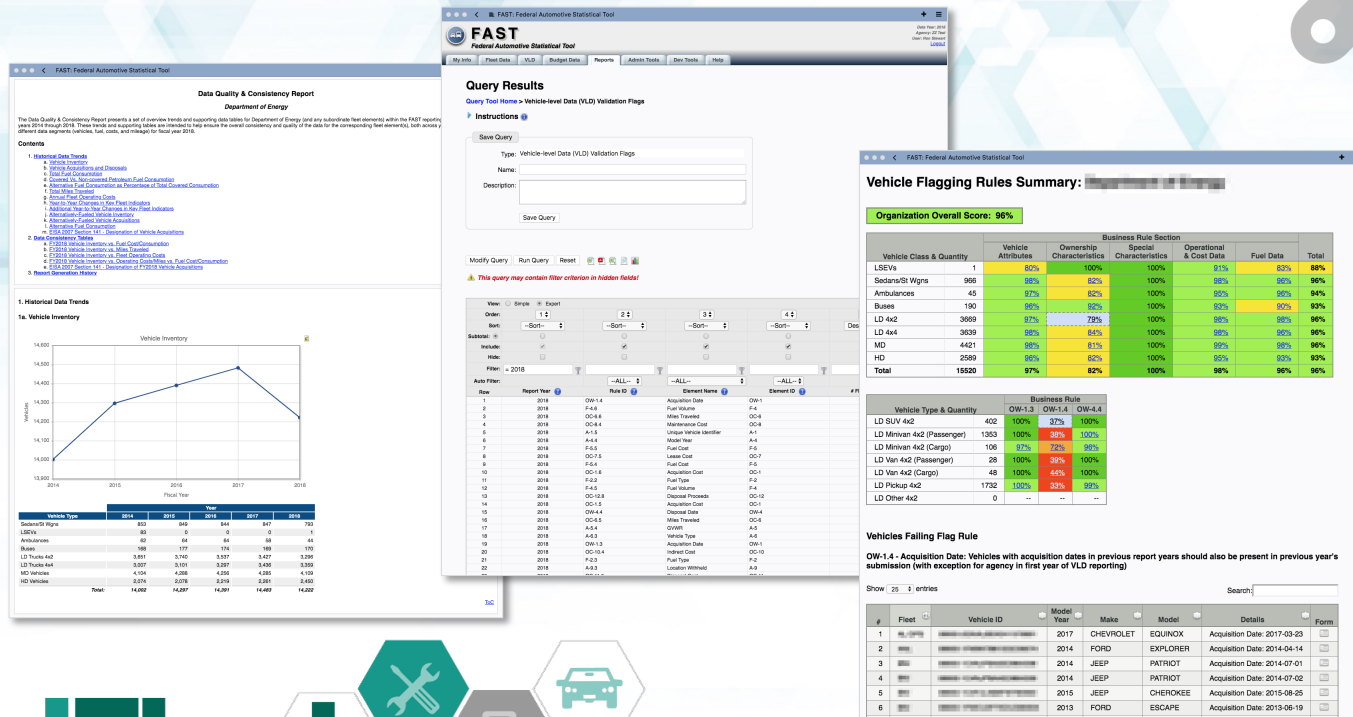
How is fleet data reviewed?

- **As the data is reported:**
 - Data must pass validation as it is loaded
 - 150+ “blocking” checks for basic validity
 - Data also screened for reasonability
 - 25+ “flagging” checks
 - Checks are documented in FAST’s “Vehicle-Level Data Business Rules Reference”



How is fleet data reviewed?

- After it has been loaded in FAST:
 - Pre-defined reports
 - User-defined ad hoc queries



How is fleet data reviewed?

- **When agency designates submission as complete:**
 - FAST team reviews agency submission
 - FAST team provides written summary of noted items
 - Agency responds to review summary
 - FAST re-opened for corrections identified by agency
 - FAST team assembles review results and agency responses into dashboard



How is fleet data reviewed?

- **FAST team review looks at two levels**
 - Macro: high-level consistency
 - Unexpected shifts in fleet size or makeup?
 - Inconsistent shifts in costs, miles, fuel?
 - Micro: vehicle-level consistency and trouble spots
 - Year-to-year consistency
 - Fuel efficiency (e.g., mileage or fuel)
 - Use of “placeholders” for vehicle information
- **DOE review looks primarily at compliance**
 - Identifies issues impacting compliance



Preliminary review of FY 2019 fleet data

- **Data call officially closed 2019-12-16**
 - 44 of 50 expected agencies completed on time
 - 4 additional agencies complete before 2020-01-01
 - 2 small agencies incomplete (~60 vehicles)
- **Preliminary review summaries provided to on-time agencies shortly after completion**
 - First three agencies had summaries by 2019-11-15
- **Significant improvements:**
 - Agencies are reporting sooner
 - Agencies are receiving feedback sooner

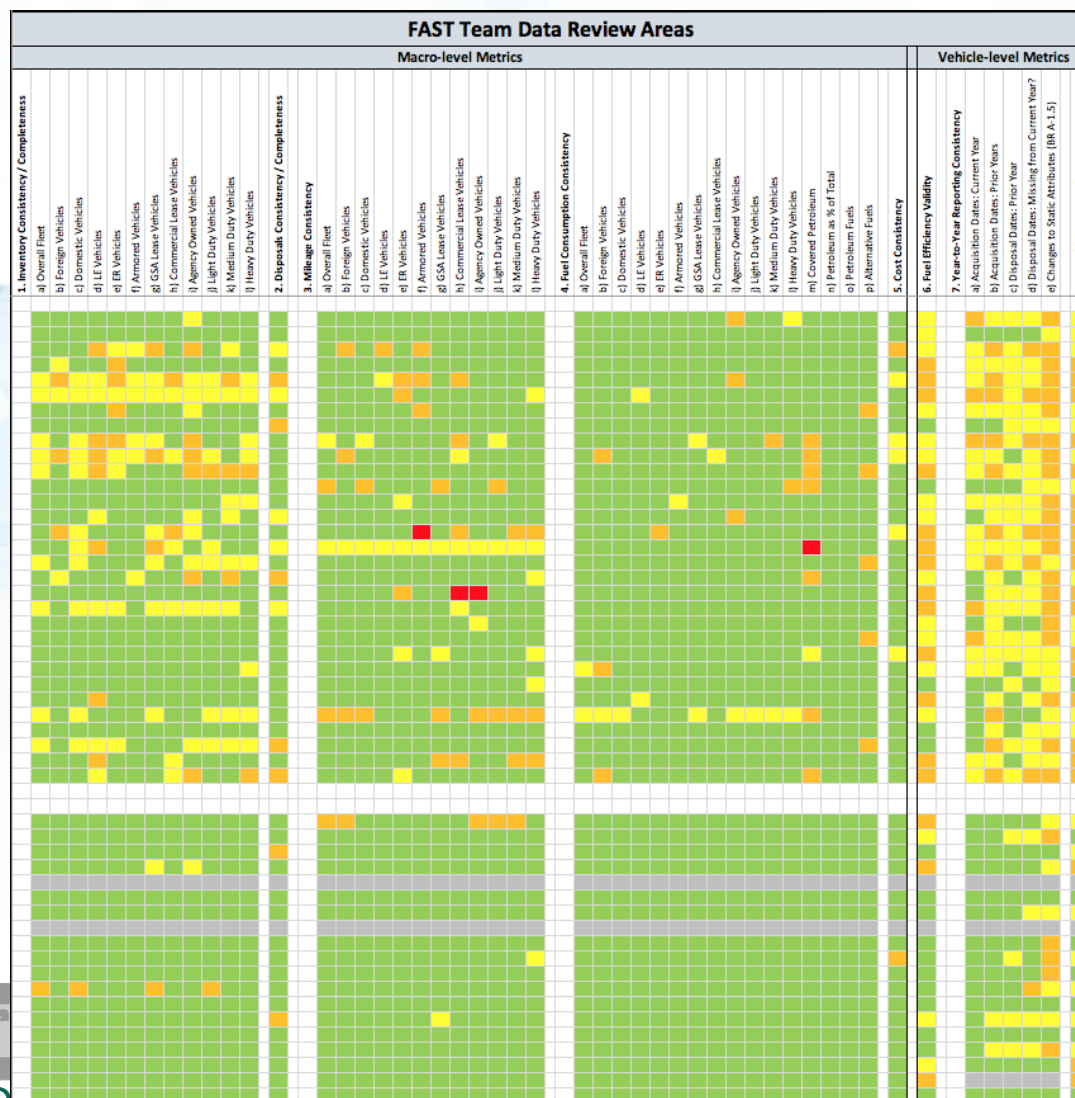


Preliminary review of FY 2019 fleet data

- FY 2019 review dashboard

Legend

- No significant issues noted
- Issue(s) noted; may be limited in scope or impact
- Issue(s) noted; significant in scope and/or impact
- Issue(s) noted; missing or highly suspect data
- Not evaluated

FAST Team Data Review Areas	
Macro-level Metrics	Vehicle-level Metrics
1. Inventory Consistency / Completeness a) Overall Fleet b) Foreign Vehicles c) Domestic Vehicles d) LE Vehicles e) RV Vehicles f) Armored Vehicles g) GSA Lease Vehicles h) Commercial Lease Vehicles i) Agency Owned Vehicles j) Light Duty Vehicles k) Medium Duty Vehicles l) Heavy Duty Vehicles 2. Disposal Consistency / Completeness 3. Mileage Consistency a) Overall Fleet b) Foreign Vehicles c) Domestic Vehicles d) LE Vehicles e) RV Vehicles f) Armored Vehicles g) GSA Lease Vehicles h) Commercial Lease Vehicles i) Agency Owned Vehicles j) Light Duty Vehicles k) Medium Duty Vehicles l) Heavy Duty Vehicles 4. Fuel Consumption Consistency a) Overall Fleet b) Foreign Vehicles c) Domestic Vehicles d) LE Vehicles e) RV Vehicles f) Armored Vehicles g) GSA Lease Vehicles h) Commercial Lease Vehicles i) Agency Owned Vehicles j) Light Duty Vehicles k) Medium Duty Vehicles l) Heavy Duty Vehicles m) Covered Petroleum n) Petroleum as % of Total o) Petroleum Fuels p) Alternative Fuels 5. Cost Consistency 6. Fuel Efficiency Validity 7. Year-to-Year Reporting Consistency a) Acquisition Dates: Current Year b) Acquisition Dates: Prior Year c) Disposal Dates: Prior Year d) Disposal Dates: Missing from Current Year? e) Changes to Static Attributes (B&A-1.5) 8. Use of "Placeholder" Values	

Preliminary review of FY 2019 fleet data

[illegible]**FY 2018**[illegible]

FY 2019

Preliminary review of FY 2019 fleet data

- **Where do we see trouble spots?**
 - **M1 & M7: Year-to-year consistency of vehicle reporting**
 - Missing / inconsistent reporting of vehicles
 - Changes in “static” vehicle attributes
 - **M6: Fuel and mileage at the vehicle level**
 - **M8: Use of “placeholder” values for vehicle attributes**
 - Particularly for vehicle fuel and mileage



Preliminary review of FY 2019 fleet data

- **Trouble spots: Year-to-year consistency of vehicle reporting**
 - Measure 1(a): overall inventory (example)
 - *Total inventory discrepancies: 15,389 vehicles*
 - Measure 7(a): Current-year acquisitions also reported in prior year (flag OW-1.3)
 - *Total: 2,681 vehicles*
 - Measure 7(b): Vehicles in current-year inventory missing from prior year (based on acquisition date; flag OW-1.4)
 - *Total: 23,800 vehicles*

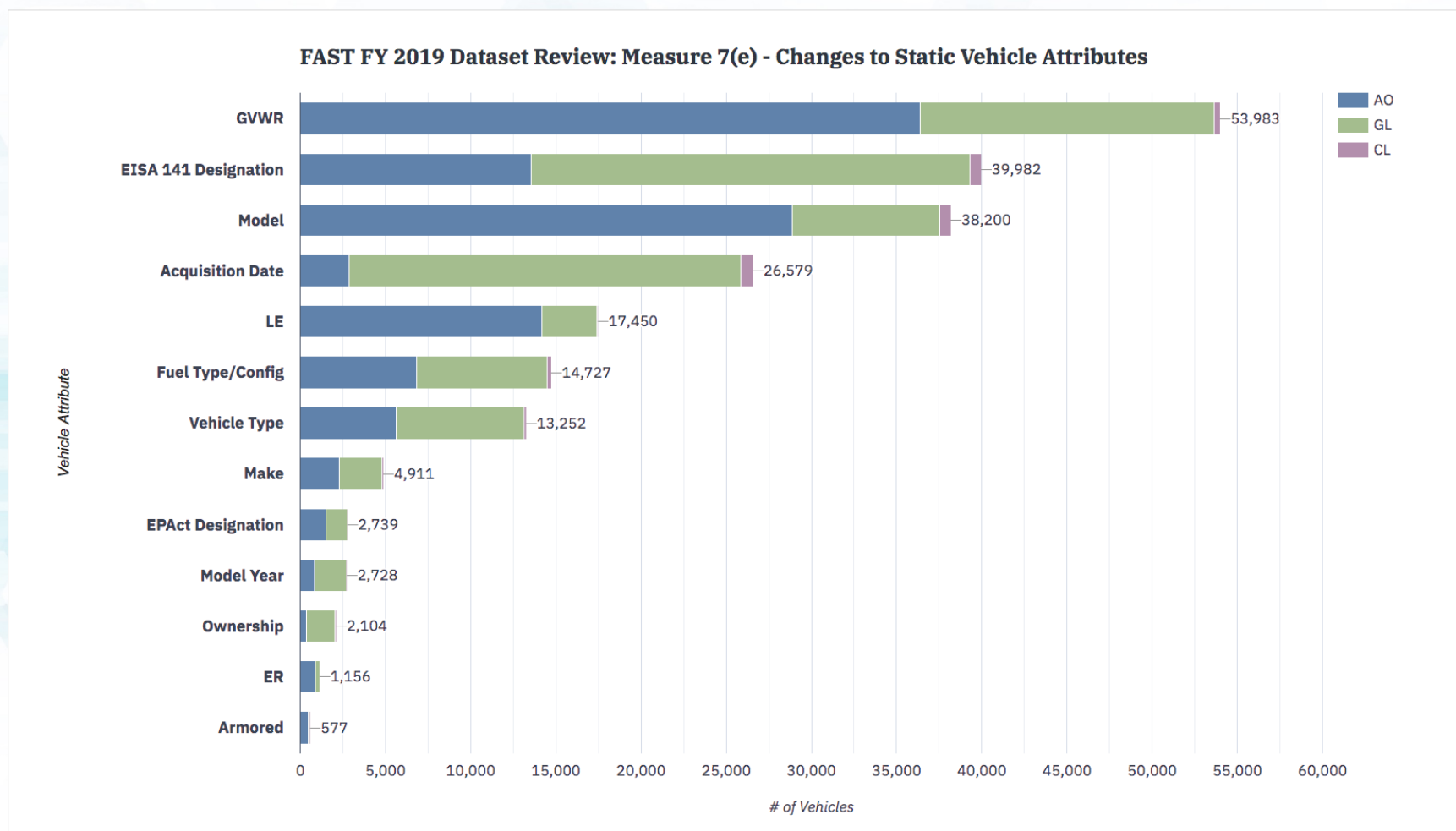


Preliminary review of FY 2019 fleet data

- **Trouble spots: Year-to-year consistency of vehicle reporting (continued)**
 - Measure 7(c): Prior-year disposals also present in current year (flag OW 4.4)
 - *Total: 1,104 vehicles*
 - Measure 7(d): Vehicles in prior year inventory missing from current year:
 - *Total: 18,743 vehicles*
 - Measure 7(e): Vehicles with year-to-year changes to “static” attributes (flag A-1.5)
 - *Total: 114,680 vehicles*



Preliminary review of FY 2019 fleet data



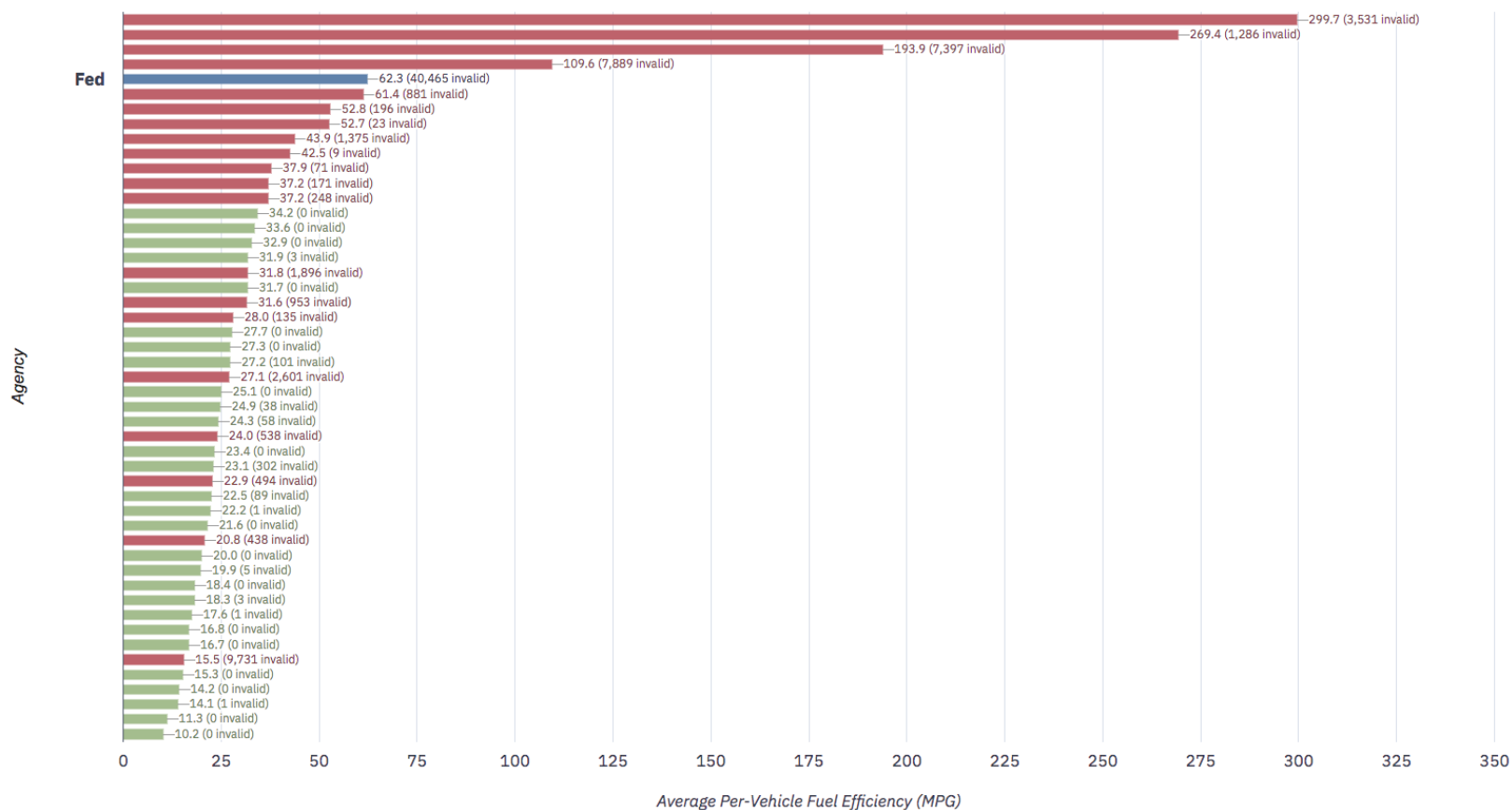
Preliminary review of FY 2019 fleet data

- **Trouble spots: Fuel and mileage at the vehicle level**
 - Measure 6: vehicles with invalid high fuel efficiency (flag F-4.6)
 - Further limited to vehicles w/miles > 1,000
 - *Total: 40,465 of 581,798 vehicles*
 - *5 agencies with > 10% of vehicles flagged*
 - Invalid data skews agency and federal per-vehicle average fuel efficiency



Preliminary review of FY 2019 fleet data

FAST FY 2019 Dataset Review: Measure 6 - Invalid High Vehicle Fuel Efficiency

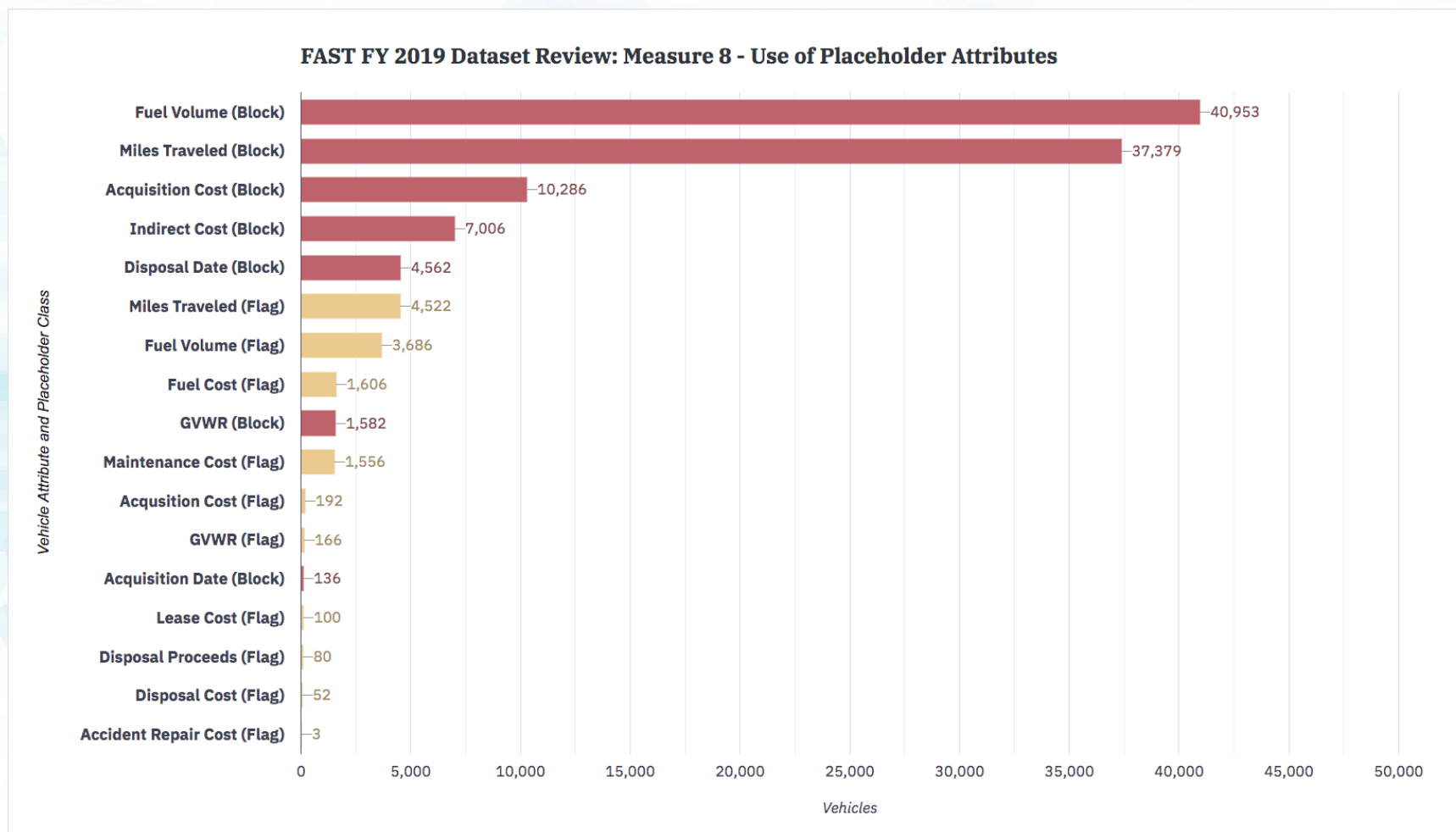


Preliminary review of FY 2019 fleet data

- **Trouble spots: Placeholder values**
 - Placeholder: vehicle attribute which exactly matches business rule thresholds for blocking or flagging data
 - Raises question about “real” data
 - *72,030 vehicles (of 698,441) reported with one or more placeholder attributes*
 - *101,904 blocking placeholders*
 - *11,963 flagging placeholders*



Preliminary review of FY 2019 fleet data



Recommendations

- **Maintain perspective:**
 - Understanding where the problems are is A Good Thing™
 - Improving quality is a (potentially lengthy) process
- **Continue the focus on timely reporting**
- **Use available tools to identify, investigate problem areas**
 - Flags during data loading process
 - Available reports
 - Results from reviews (and supporting detail)
- **Look for coming changes on the data collection side**





Discussion



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